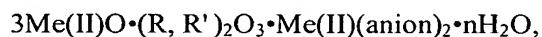


What is Claimed Is:

1. A method of resisting corrosion of metals in concrete comprising: introducing into concrete having metal elements at least one compound capable of sequestering chloride ions, the compound being a combination compound having the formula



where R and R' are different and are independently selected from the group consisting of Al, Fe and Cr; anion is selected from the group consisting of NO<sub>2</sub>, NO<sub>3</sub> and OH, n is 0 to 24, and Me(II) is a cation and is selected from the group consisting of Ca, Ba, Sr, Mn, Zn and combinations thereof.

2. The method of claim 1 wherein said chloride sequestration results in a chloride-containing compound having low solubility in said concrete.

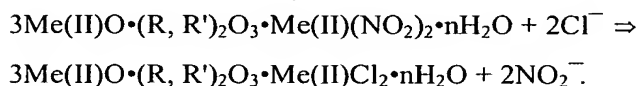
3. The method of claim 1 wherein said anion is NO<sub>2</sub>, cation is Ca, R is Al and R' is Fe.

4. The method of claim 1 wherein said concrete is fresh concrete and said compound is introduced in an amount of about 3 to 88 pounds of particulate solid per cubic yard of hydrated fresh concrete.

5. The method of claim 1 wherein R and R' are derived from solid sources.

6. The method of claim 1 wherein the ratio of R to R' is about 1:1.

7. The method of claim 1 wherein the following reaction creates the chloride-sequestering compound and establishes said corrosion resistant oxide layer:



8. A concrete structure comprising: concrete, a plurality of metal elements in contact with said concrete, and a combination compound capable of sequestering chloride ions having the formula

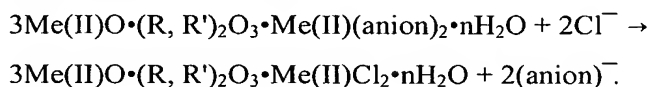
$3\text{Me(II)O}\cdot(\text{R}, \text{R}')_2\text{O}_3\cdot\text{Me(II)(anion)}_2\cdot n\text{H}_2\text{O}$ , where R and R' are different and are independently selected from the group consisting of Al, Fe and Cr; anion is selected from the group consisting of NO<sub>2</sub>, NO<sub>3</sub> and OH, n is 0 to 24, and Me(II) is a cation and is selected from the group consisting of Ca, Ba, Sr, Mn, Zn and combinations thereof, disposed within said concrete.

9. The concrete structure of claim 8 wherein said anion is NO<sub>2</sub>, cation is Ca, R is Al and R' is Fe.

10. The concrete structure of claim 8 wherein said chloride ion sequestering results in a compound having low-solubility in said concrete.

11. A combination compound capable of sequestering chloride ions having the formula 3Me(II)O•(R, R')<sub>2</sub>O<sub>3</sub>•Me(II)(anion)<sub>2</sub>•nH<sub>2</sub>O, where R and R' are different and are independently selected from the group consisting of Al, Fe and Cr; anion is selected from the group consisting of NO<sub>2</sub>, NO<sub>3</sub> and OH, n is 0 to 24, and Me(II) is a cation and is selected from the group consisting of Ca, Ba, Sr, Mn, Zn and combinations thereof.

12. The compound of claim 11 wherein the following reaction creates the chloride sequestering compound:



13. A method of resisting corrosion of metals in a concrete structure comprising: creating an overlay containing at least one combination compound capable of sequestering chloride ions having the formula

3Me(II)O•(R, R')<sub>2</sub>O<sub>3</sub>•Me(II)(anion)<sub>2</sub>•nH<sub>2</sub>O, where R and R' are different and are independently selected from the group consisting of Al, Fe and Cr; anion is selected from the group consisting of NO<sub>2</sub>, NO<sub>3</sub> and OH, n is 0 to 24, and Me(II) is a cation and is selected from the group consisting of Ca, Ba, Sr, Mn, Zn and combinations thereof; securing said overlay adjacent to said concrete structure, and sequestering chloride ions in said overlay.

14. The method of Claim 13 wherein said overlay is created on said concrete structure.

15. The method of Claim 13 wherein said overlay is preformed and then secured to said concrete structure.

16. The method of Claim 13 wherein said preformed overlay is secured to said concrete structure by adhesive.

17. The method of Claim 13 including applying said overlay to said concrete structure as a slurry.

18. The method of Claim 13 including applying a second layer over said slurry overlay.

19. The method of Claim 13 including providing said second layer with lower porosity than said slurry overlay.

20. The method of Claim 13 including employing a material selected from the group consisting of concrete, asphalt, Portland cement, clay, calcium aluminate cement, and mortar in said overlay.

21. The method of Claim 13 including introducing high ionic strength liquid into said overlay.

22. The method of Claim 13 including employing said method in a concrete structure disposed at least partially under water.

23. The method of Claim 13 including performing said method without requiring ongoing input of electrical energy.

24. The method of Claim 13 including establishing said overlay with a thickness of about 0.5 to 10 inches.

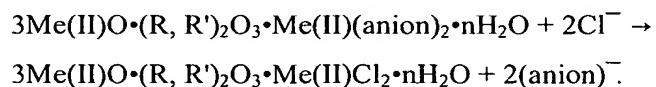
25. The method of Claim 13 including establishing said overlay with a thickness of about 1 to 4 inches.

26. A concrete assembly comprising: a concrete structure, a plurality of metal elements within said concrete structure and an overlay, said concrete structure and/or said overlay containing a compound capable of sequestering chloride ions having the formula  $\text{Me(II)O} \cdot (\text{R}, \text{R}')_2\text{O}_3 \cdot \text{Me(II)(anion)}_2 \cdot n\text{H}_2\text{O}$ , where R and R' are different and are independently selected from the group consisting of Al, Fe and Cr, anion is selected from the group consisting of  $\text{NO}_2$ ,  $\text{NO}_3$  and OH, n is 0 to 24, and Me(II) is a cation and is selected from the group consisting of Ca, Ba, Sr, Mn, and Zn, and combinations thereof, and said concrete structure and said overlay being disposed in close adjacency to permit ion exchange between pores of said concrete structure and said overlay.

27. The concrete assembly of Claim 26 wherein said chloride sequestration results in a chloride-containing compound having low solubility in said concrete.

28. The concrete assembly of Claim 26 wherein R is Al, R' is Fe, Me(II) is Ca, and anion is  $\text{NO}_2$ .

29. The concrete assembly of Claim 26, wherein the following reaction creates the chloride-containing compound and sequesters said chloride ions:



30. A method of making a compound which sequesters chloride ions and provides resistance to corrosion of metals in concrete comprising mixing a solid source of aluminum, iron or chromium oxide or hydroxide with a cation and an anion to provide a compound having the formula



where R is selected from the group consisting of Al, Fe, Cr and combinations thereof, anion is NO<sub>2</sub>, NO<sub>3</sub> or OH; n = 0 to 24; and Me(II) is a cation selected from the group consisting of Ca, Ba, Sr, Mn, Zn and combinations thereof.

31. The method of Claim 30, wherein said cation is Ca and said anion is NO<sub>2</sub>.

32. The method of Claim 30, wherein said cation is Ca and said anion is NO<sub>3</sub>.